National Institute of Environmental Health Sciences

Seasonal trends in epidemiological and entomological profiles of malaria transmission in North Central Nigeria

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Abstract:

The influence of seasonal changes on epidemiological and entomological indices of malaria transmission in North Central Nigeria was elucidated in a series of studies carried out between January 2004 and December 2009. The climate in the study area was divided into three seasonal periods namely, rainy (May-October), dry (December-March) and transitional (April and November), during which larval and adult anopheline mosquito collections were carried out and assessed for densities, sporozoite infection and parity rates and potentials for malaria transmission. The results indicated that the climate in the study area was clearly seasonal, with close similarities in the patterns of distribution of the climatic factors in the study sites. Mosquito densities, both at the adult and larval stages (i.e., 29.35 +/- 5.10 adult mosquitoes/man/night and 10.36 +/- 3.34 larvae/dip, respectively), were significantly (p 0.05) different during the transitional and rainy seasons. Adult mosquito daily survival rate and adult longevity were least in the dry season (26.52 +/- 11.80% and 6.80 days, respectively) and significantly (p 0.05) different during the three seasons. The epidemiology of urban malaria in North Central Nigeria was discussed from the view points of the these results and concluded that the findings should promote the development of informed temporally-targeted vector control programs for the area.

Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Policymaker

Exposure :

weather or climate related pathway by which climate change affects health

Meteorological Factors, Precipitation, Temperature

Temperature: Fluctuations

Geographic Feature: ☑

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Africa

African Region/Country: African Country

Other African Country: Nigeria

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Vectorborne Disease

Vectorborne Disease: Mosquito-borne Disease

Mosquito-borne Disease: Malaria

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content